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UNIVERSITY OF MARYLAND AT COLLEGE PARK

OFFICE OF RESEARCH ADMINISTRATION AND ADVANCEMENT

August 1, 1994

Enclosed is a proposal submitted on behalf of the University of Maryland. Please direct any technical questions to the Project Director and any administrative matters to our Grants Management Specialist. Both are identified below.

We appreciate your consideration of this proposal.

Erica Magrum
Acting Director

PROJECT DIRECTOR: Dr. Azriel Rosenfeld, Research Professor and Director at the Center for Automation Research
TELEPHONE NUMBER: (301) 405-4526

GRANTS MANAGEMENT SPECIALIST: Ms. Evan Crierie
TELEPHONE NUMBER: (301) 405-6273

PROPOSAL TITLE: "Appearance-Based Vision for Complex Environments"

STATE AGENCY IDENTIFIER NUMBER: MD 940728-8040-360201

NUMBER OF COPIES: ten and signed original

PROPOSAL TO BE SUBMITTED TO:

ATTENTION: MURI '94/ONR 342 CN
Office of Naval Research
800 North Quincy Street, Room 823
Arlington, Virginia 22217-5660

**The Co-Project Directors would be Drs. Larry S. Davis, Professor at the Department of Computer Science and the Center for Automation Research, and Rama Chellappa, Professor at the Department of Electrical Engineering and the Center for Automation Research.

2100 LEE BUILDING ♦ COLLEGE PARK, MARYLAND 20742-5141 ♦ (301) 405-6269 ♦ FAX: (301) 314-9569

Submitted to May 1994 program announcement:
FY94 DoD Multidisciplinary Research Program of the University Research Initiative

PROPOSAL NUMBER: N4442--0191
(To Be Completed by DoD Only)

1. THE PRINCIPAL INVESTIGATOR:

Prof.	Azriel		Rosenfeld	301-405-4526
(Title)	(First Name)	(MI)	(Last Name)	(Phone Number, including Area Code)

University of Maryland
(Organization)
Center for Automation Research
(Department/Division)

(Street/P.O. Box)

College Park,	MD	20742-3275
(City)	(State)	(Zip Code)

CURRENT DoD CONTRACTOR OR GRANTEE: YES X NO ____

If yes, give Agency, Point of Contact, Phone Number:

ARPA, Oscar Firschein, 703-696-2270

2. THE PROPOSAL:

Appearance-based vision for complex environments
(Title of the Proposal--Please be brief and descriptive; do not use acronyms or mathematical or scientific notation)

SAI #: MD 940728-8040-360201

12/15/94 - 12/14/99 (including options)	
Proposed Research Period (DD/MM/YY thru DD/MM/YY)	Your Institution's Proposal Number

OTHER AGENCIES RECEIVING THIS RESEARCH FUNDING REQUEST (e.g., NSF, DoE, NASA, NIH, or other). Please identify agency(ies) and give Names(s) and Phone Number(s) of Point(s) of Contact at those agencies:

NONE

Submitted in Response to ONR (DoD Agency, e.g., ONR) Automated Vision/Sensing Systems (DoD Agency research topic, e.g., Integrated Diagnostics)

Total funds requested from DoD:

4,016,630	+	2,715,710	=	6,732,340
basic 3-yr total		2-year option total		5-year total

UNIVERSITY OF MARYLAND AT COLLEGE PARK

OFFICE OF RESEARCH ADMINISTRATION AND ADVANCEMENT

December 16, 1994

Office of Naval Research
MURI '94/ONR 342 CN, Room 823
800 North Quincy Street
Arlington, VA 22217-5660
ATTN: Dr. H. Hawkins

Re: Proposal Title: "Appearance-Based Vision for Complex Environments"
State Agency Identifier No.: MD 940728-8040

Dear Dr. Hawkins:

Attached please find the revised budget for the above referenced proposal, which has been endorsed on behalf of the University of Maryland.

The project director would be Prof. A. Rosenfeld, Professor of the Center for Automation Research on campus. The proposal was originally submitted around the 1st of August, 1994 and has been assigned the above referenced campus identification number.

Administrative questions may be directed to Evan Crierie, Contract Administrator, in this office at the number below.

Thank you for your consideration of this proposal.

Sincerely,

(b) (6)

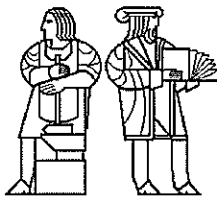
Erica Magrum
Director

EM/EC/dw

Enclosure(s)

cc: Prof. A. Rosenfeld, CfAR

2100 LEE BUILDING ♦ COLLEGE PARK, MARYLAND 20742-5141 ♦ (301) 405-6269 ♦ FAX: (301) 314-9569



Massachusetts Institute of Technology
77 Massachusetts Avenue, E19-719
Cambridge, Mass. 02139

Office of Sponsored Programs

Telephone (617) 253-3826
fax (617) 253-4734

December 15, 1994

University of Maryland
Office of Research Administration
Room 2100, Lee Building
College Park, MD 20742

ATTENTION: Ms. Evan Crierie

REFERENCE: Proposal entitled "Appearance-based vision for complex environments"

Dear Ms. Crierie:

Massachusetts Institute of Technology submits herewith a revised budget for the above referenced proposal on behalf of Professor Alex P. Pentland of our Media Laboratory.

Funding in the amount of $1,500,000 is requested for the period March 1, 1995 to February 28, 2000.

In the event this proposal is successful, MIT requests terms and conditions appropriate for a non profit educational institution including unrestricted publication rights.

Questions of a technical nature should be directed to Professor Pentland at (617)253-0648. Questions of an administrative nature may be referred to me at (617)253-3826.

Very truly yours,

(b) (6)

George F. Prendergast
Coordinator

GFP/prm
enclosures

cc: Prof. Pentland
Mr. Greene

Sub-contract Revised Budget Proposal to:
University of Maryland
"Appearance-based vision for complex environments"

Looking at People: Detection, tracking, and interpretation of people and their actions in complex scenes.

from:
The Media Laboratory
Massachusetts Institute of Technology
20 Ames Street
Cambridge, MA 02139

Principal Investigator:

Alex Pentland
E15-387
(617) 253-0648
sandy@media.mit.edu
fax: (617) 253-6264

Proposed Period: 3/1/95 - 2/28/00
Proposal Funding: $1,500,000

(b) (6)

George F. Prendergast, Coordinator
Office of Sponsored Programs
Massachusetts Institute of Technology
77 Massachusetts Avenue, E19-719
Cambridge, Massachusetts 02139
(617) 253-3826
gprender@mit.edu

December 14, 1994

3. THE INSTITUTION: Signature and typed name and address of university official authorized to obligate contractually, and with whom business negotiations should be conducted.

[redacted] 8/1/94

(Signature) (Date)

Acting Director	Erica	M.	Magrum	(301) 405-6269
(Title)	(First Name)	(MI)	(Last Name)	(Phone Number, including Area Code)

University of Maryland, College Park

Legal Name of Grantee (University)

Street Address (P.O. Box Numbers Cannot Be Accepted)

College Park	MD	20742-5141
(City)	(State)	(Zip Code)

4. CERTIFICATIONS BY OTHER UNIVERSITY OFFICIALS: Use this space for names, titles, and signatures of other officials you wish to approve submission of this proposal (e.g., the Principal Investigator and Department Head, Dean or other officials). A separate sheet may be submitted if additional signatures are required. Recall that all sheets must render the entire proposal no more than 100 pages in length.

Azriel Rosenfeld [redacted] 7/29/94

Principal Investigator (Typed name plus signature) Date

Other Official (Typed name plus signature) Date

Other Official (Typed name plus signature) Date

ABSTRACT

The University of Maryland, in collaboration with the MIT Media Laboratory and the University of Washington, proposes a multidisciplinary research program in the area of Automated Vision/Sensing Systems. Two novel approaches to appearance-based vision will be investigated, featuring integrated treatment of objects ("things") and backgrounds ("stuff") in images. Using these approaches, algorithms will be developed for two applications: recognition of humans in action, and recognition of vehicles in both civilian and military contexts. Rigorous performance characterization protocols will be employed in evaluating the algorithms. The approaches will also be extended to infrared and range (LADAR) imagery. The resulting algorithms and software will be transferred to industrial partners in both the commercial and military sectors.

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